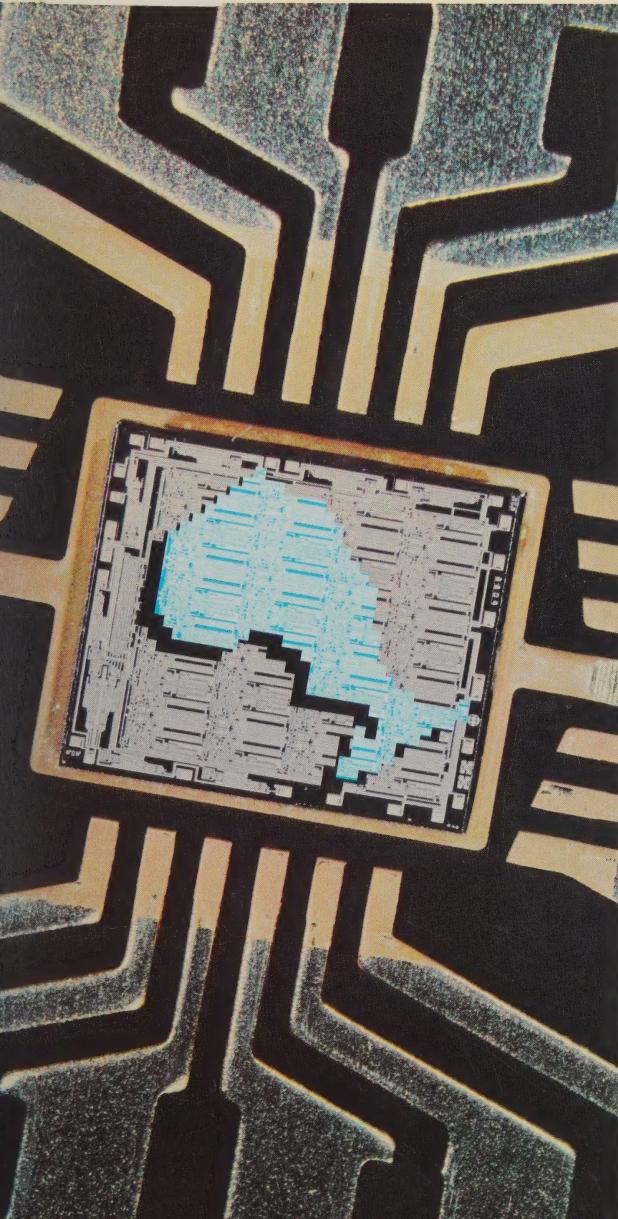


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ONTARIO
CENTRE
FOR
MICROELECTRONICS



ONTARIO CENTRE FOR MICROELECTRONICS

"In the economic development strategy of the Board of Industrial Leadership and Development we propose to establish a number of centres across the province designed to capitalize on the opportunities inherent in emerging technologies."

"At the very heart of high technology is, of course, microelectronics. It was with this in mind that we committed a total of \$20 million to build, equip and operate a Centre for Micro-electronic Technology in the heart of Canada's high-technology sector — Ottawa."

"The mandate of this Centre is to assist small and medium-sized manufacturers to obtain, understand and adapt the essential custom-made semiconductors, or chips, for new product innovations.

"The Centre will also help generate a general awareness of the innovative potential of microelectronics and provide a focal point for the development of educational resources to meet the training challenges of micro-electronic technology."

excerpts from the Statement to the Legislature by the then Minister of Industry and Trade on Second Reading of The Act to establish Technology Centres, June 14, 1982.

Letter from the Chairman

**The Honourable Frank Miller
Minister of Industry and Trade**

Dear Sir:

With great pleasure I submit to you this first annual report of the Ontario Centre for Microelectronics for the fiscal year 1982/83.

I'm sure the Centre's 32 staff members and the Board of Directors will all agree that the opportunity to be part of the Centre's inaugural year was an exciting challenge.

That today we are a facility of 10,000 square feet housing one of the most sophisticated computer aided design systems in Canada and staffed by a team of highly trained engineering and management professionals handpicked from industry is a considerable achievement in such a short time frame.

From the first Ottawa-Carleton Task Force in 1979 to the Microelectronics Task Force recommendations presented to the Ministry in October 1981 and then to the final Business Plan submitted in March 1982, the Ministry's recognition of the importance and urgency of the establishment of such a centre has been vital. The effort and cooperation of the many Ministry personnel has played an important role in the Centre's progress.

As our first year of operation effectively only began in September, 1982, it has not been a year of statistical milestones but one of laying the foundation and developing programs to best meet our mission.

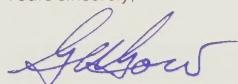
With the diffusion of microelectronics technology into Ontario industry as the Centre's long term goal, a well structured organization with a fully equipped engineering design capability had to be created. This is now in place and the Centre's design and consulting services, training and awareness programs and technical information centre are already being utilized by a number of Ontario firms.

Such efforts as furnishing the Centre, setting up the financial system, producing all the corporate documentation and the hours of strategic planning are hidden achievements of our first year.

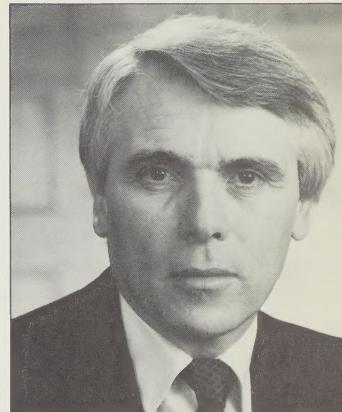
Now we look forward to working with the other five technology centres in helping industry develop new and improved products and operate more efficiently through the application of microelectronic technologies.

The unique combination of industry expertise and government support has built what can justifiably be labelled as a "world class microelectronics centre". Our mandate now is to provide the kind of support Ontario businesses require to compete on a world class basis.

Yours sincerely,



Gordon Gow
Chairman of the Board



Gordon Gow
Chairman of the Board

OCM's First Year Highlights

On December 15, 1981, following a Report of the Task Force on Microelectronics, the then Minister of Industry and Trade reported to the Legislature the commencement of a program to set up six technology centres including a Centre for Microelectronics. A five-year Business Plan for the Microelectronics Centre was developed by a four-man industry task force under contract to the Ministry and received initial approval in March 1982.

APRIL 1982

An implementation contract was awarded to the same task force to address the floor plan, business equipment, furnishings, and rental location.



AUGUST 1982

With nine employees, program planning began in the areas of training, public relations, awareness and engineering design services.

SEPTEMBER 1982

On September 16, the Ontario Centre for Microelectronics was incorporated as a schedule 2 Crown Corporation.

DECEMBER 1982

Lionel Hurtubise joined OCM on December 1st as its first President, bringing the staff complement to 22.

The VAX 11/780 was selected as the main computer for the Centre's computer aided design system.

JANUARY 1983

The Centre received its first technical contract.

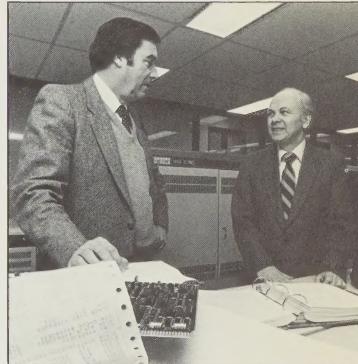
MAY 1982

Premises comprising 10,000 square feet leased during May represented the first tangible step towards the Centre's establishment.

JULY 1982

On July 6, the passing of The Act to establish the Technology Centres by the Ontario Legislature allowed the Centre to begin hiring staff. Six employees joined OCM in July including the Vice Presidents of Technology, Communications and Administration.

On July 8, the Business Plan received full approval from key Ministry officials responsible for the Technology Program, the Honourable Gordon Walker, then Minister of Industry and Trade and BILD.



OCTOBER 1982

On October 13, the appointment of Gordon Gow as Chairman and the Centre's 14 member Board of Directors was approved by Cabinet and the Lieutenant Governor.

On October 28th, the Centre was officially opened by Premier William Davis at a ceremony at Carleton University where approximately 800 visitors were exposed to high technology companies' exhibits.

NOVEMBER 1982

The furnishings and office equipment were installed providing the physical structure integral to the engineering lab, library, training rooms, and office systems.

The Centre established itself with the technical community for the first time with a state-of-the-art Microelectronics Update Seminar which it hosted in Ottawa, October 12 & 13, and Toronto on November 2 & 3.

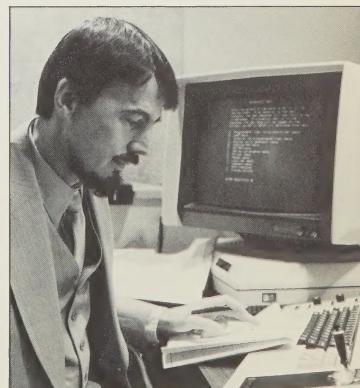
FEBRUARY 1983

One of the first presentations of the Centre's one-day awareness seminar called "A Managerial Overview of Microelectronics" was given to key officials of the Ministry of Industry and Trade including many of its business field consultants.

MARCH 1983

The building of the computer room was completed and the VAX 11/780 host computer was installed which would allow the design engineers to perform complex integrated circuit design work.

With the appointment of the Director of Business Development, the Centre's marketing effort went into full swing.

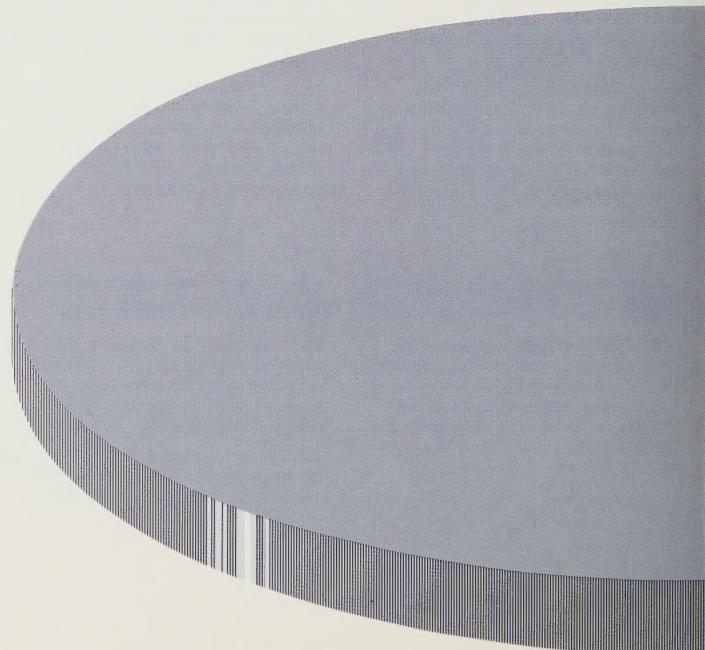


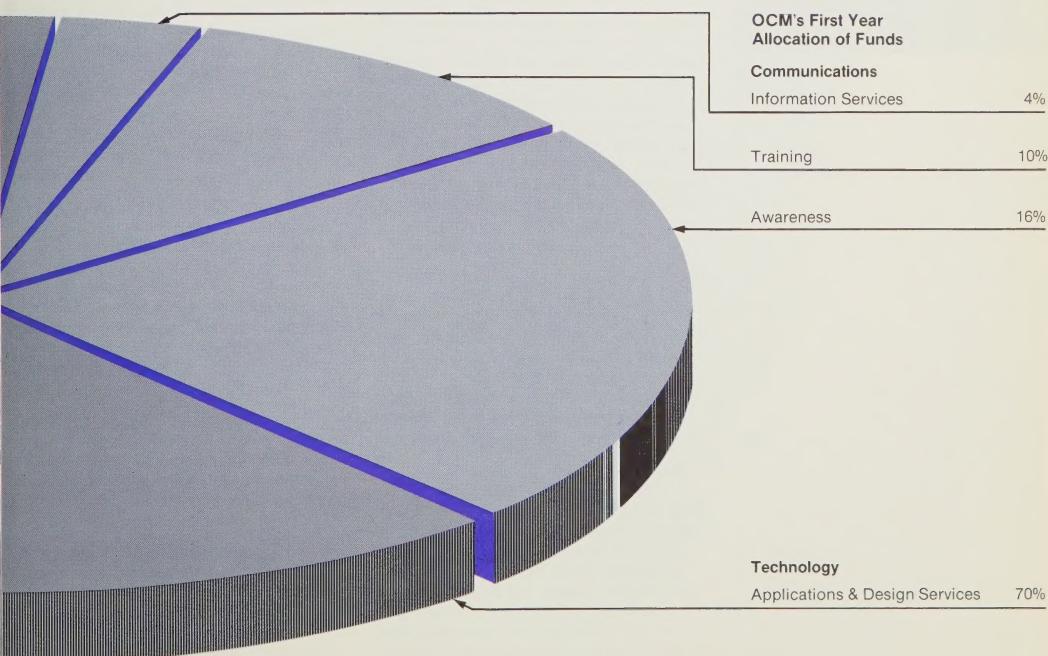
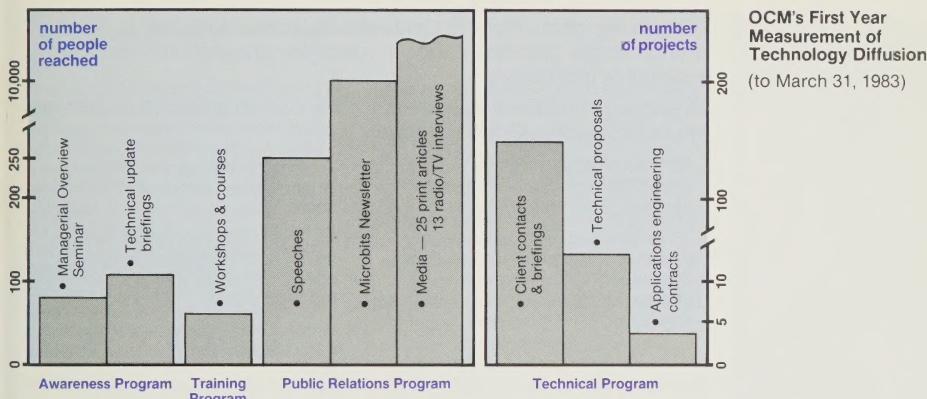
OCM's First Year at a Glance

The prime measurement for the success of the Centre will be the number of people impacted by its programs. The bar chart indicates the number of people who were reached in the first year through the telling thrust including the awareness, training and public relations programs. In the doing

thrust, the technical program is measured by the number of client meetings and eventual projects awarded to the Centre.

The pie chart illustrates the allocation of funding by program.





OCM Department Reports



Lionel Hurtubise
President

The mission of the Ontario Centre for Microelectronics is to strengthen the Ontario industry through the application of microelectronics technology.

To achieve this broad objective, the Five Year Business Plan outlines five basic functions for the Centre:

- To provide expertise in the transition to and the application of microelectronics technology
- To provide and arrange for design and development of microelectronic circuits and custom devices and to arrange for production and testing of these designs
- To act as a training ground for engineers, technicians and technologists
- To develop an information base on microelectronics technology and sources of supply and to disseminate this information
- To conduct awareness programs on microelectronics

The three OCM departments, Communications, Technical and Administration, all have specific programs in place working to fulfill the Centre's mission.

Technical Department Activities

The technical mission of the Centre is to further the exploitation of latest available microelectronics technology, primarily addressing two client types: companies which are currently not using electronics in their products or processes and companies producing electronic products which would benefit from the use of custom designed integrated circuits. In addition, OCM's technical capabilities can be used by client companies as an extension or sometimes in place of their in-house R&D efforts.

Modern engineering relies to an increasing extent on the use of computer assisted design methods. The utilization of customized integrated circuits, or 'chips' for the enhancement of new as well as existing products depends heavily on these design aids. A major aspect of the Centre's mission is therefore the evaluation, selection and acquisition of state-of-the-art design aids, the training of its own staff in their use and the introduction of new methodologies to industry.

The original plan for the Centre to create a world class design capability has been validated and enhanced through interaction with technical committees of the Board of Directors. Among the first technical activities performed was the selection and acquisition of a complement of electronics laboratory equipment including a general purpose microprocessor development system.

In preparation for the purchase of major software modules and to advance internal training, time sharing access was established and a number of design aids of interest were tested.

Personnel selection and hiring progressed during the year and the technical staff of the Centre was built from three members in July 1982 to nine by March of 1983. Except for one new graduate, all staff members have significant prior working experience in

microelectronics related design and product development.

During the Fall of 1982 an in-depth review of computer-based engineering workstations and design aids was performed, including the execution of a benchmark test designed by the Centre. The results were integrated into the design aids acquisition plans for the Centre and an updated proposal was presented to the technical committee of the Board. With the Board's approval, the main computer for the Centre, applications software and additional lab equipment were ordered during January 1982. Most of the equipment, including the computer system became operational in April and May of 1983.

An intensive marketing campaign began in the fall of 1982 to contact the Centre's potential clients. By the end of the fiscal year 146 contacts were made. Twenty-two detailed proposals were prepared which resulted in three contracts and the remainder continued in the contract negotiations stage. In addition, nine other firms received recommendations from the Centre to solve their microelectronics problems which did not involve OCM design services.

The introduction of the use of advanced microelectronics to industry must be complemented by the provision of educational opportunities at universities. OCM has actively supported university efforts to establish better teaching and research facilities and encouraged the coordination of interests and activities among universities and with the Centre.

For the Technical Department, as well as for the Centre in total, this first, partial year of operation has built a solid foundation for the tasks ahead by transforming plans on paper into facilities, equipment and most of all, people. An appreciation of the needs of clients has been obtained and the necessity of using advanced microelectronics for market protection and expansion has been confirmed.



Karl Mayer
Vice President
Technology



Norm Fletcher
Vice President
Communications

Communications Department Activities

The Communications Department has five functional programs: awareness, technical information services, human resources, training and corporate affairs.

In the awareness program, the summer activity concentrated on the creation of a graphics identity for the Centre following a set of guidelines suggested by the Ministry for the Technology Centres public relations material. This culminated in the production of press kits, office stationery, marketing and related materials. Marketing support was provided for the first OCM technical seminar, Microelectronics Update '82, presented in the fall. Planning for the first Industry Day program held in April included the production of a portable exhibit booth, a nine-minute audio-visual on Microelectronics and the Centre's role, and display tableaux. The first issue of the Centre's bi-monthly newsletter, Microbits, was distributed March 19, 1983, to a mailing list of 10,000 selected individuals.

The services provided in the technical information program cover the complete range of professional library functions found in principle R&D establishments. With a facility for fully computerized search and retrieval, it has been in operation since December and can access data base networks such as Can-ole, QL, Dialog and Info Globe. The Centre's collection includes 61 journal subscriptions and key contemporary hard cover holdings on microelectronics. Offered to support client needs and those of Centre staff, the Centre's technical information services are also available on a cost recovery basis to individuals or organizations who do not ordinarily have library access.

In the human resource area, the first recruitment advertisement was placed on August 17 to attract key engineering staff. In excess of 200 highly qualified resumes were received. In the first nine months, 26 Centre staff positions were filled. A core of basic benefits was developed and implemented in September to provide an industry competitive Benefit Program to regular full-time employees.

During June, the development of key technical education and awareness seminars commenced. The Managerial Overview of Microelectronics is a one-day seminar to provide non-technical management with a basic understanding of microelectronics, applications, and start-up activities. This program was field tested during October in Ottawa and Toronto to two groups of 20 attendees each. At the close of the year, it had been presented another six times. Four external consultants have been trained to present the seminar 50 times in the next year throughout Ontario.

In September, the Centre presented a seminar for microelectronics engineers entitled "An Introduction to VLSI Design." The Centre provides three 32-hour video programs to teach manufacturing methods, an introduction to minicomputers and microprocessors, quality assurance and testing, to assist Ontario manufacturing personnel adapt to the new technologies.

A full range of one, two and three day technical courses and workshops are in the process of development.

A Corporate Affairs function was established in March to meet an enlarged liaison need with industrial institutions, business development groups and a wide range of government organizations.

Administration Department Activities

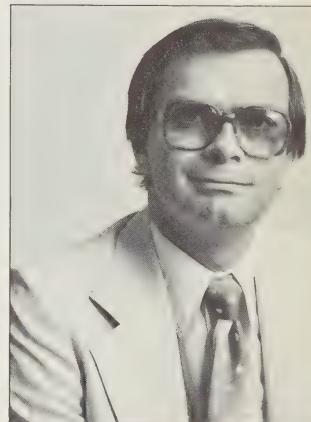
The Administration Department is responsible for the financial controls of the Centre as well as facilities management, purchasing, contract administration and accounting.

Premises comprising 10,000 square feet were leased in May 1982. During the next six months, the Centre was fully furnished and equipped including the completion of all leasehold improvements. The construction of the computer room and four engineering work station rooms was completed by the end of February 1983.

A purchasing department with appropriate controls and procedures was established and active in the vendor negotiations required in the start-up activities of the Centre.

The Administration Department provides support to the other two Centre departments in all commercial activities including contract administration. By the end of the year, the Centre had completed and invoiced three contracts and twenty-two proposals and nine recommendations had been prepared.

The accounting department was established to ensure control of the Centre's assets and the reporting of financial results. The Audit sub-committee interviewed and recommended to the Board of Directors the Centre's audit firm. The department is also proceeding toward the introduction of an internal computerized accounting system in the new year which will facilitate the financial control of the Centre's resources.



Glen H. Morrow
Vice President
Finance and Administration

Financial Statements

for the Period From Commencement of Operations April 1, 1982
to March 31, 1983 and Auditors' Report to the Shareholders

To The Ontario Centre for Micro-electronics and Minister of Industry and Trade of the Province of Ontario:

We have examined the balance sheet of the Ontario Centre for Microelectronics as at March 31, 1983 and the statements of excess of revenue over expenditures and surplus, reserve for capital assets and of changes in financial position for the period from commencement of operations April 1, 1982 to March 31, 1983. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests

and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Centre as at March 31, 1983 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a consistent basis.

Deloitte Haskins + Sells

Auditors
May 9, 1983



**Statement of Excess of Revenue over Expenditures and Surplus
from Commencement of Operations, April 1, 1982 to March 31, 1983**

PROGRAM EXPENSES — Schedule 1

Technical	\$ 409,880
Communications	469,599
	879,479

RECOVERY OF PROGRAM EXPENSES	54,172
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NET PROGRAM EXPENSES	825,307
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ADMINISTRATION — Schedule 2	326,026
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NON RECURRING EXPENSES — (Note 5)	324,639
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TOTAL NET OPERATING EXPENSES	1,475,972
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OPERATIONS CONTRIBUTION FROM PROVINCE OF ONTARIO (Note 2)	1,520,455
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EXCESS OF REVENUE OVER EXPENDITURES AND SURPLUS, END OF YEAR	\$ 44,483
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**Statement of Reserve for Capital Assets
From Commencement of Operations, April 1, 1982 to March 31, 1983**

CONTRIBUTIONS FROM PROVINCE OF ONTARIO (Note 1)	\$ 1,511,499
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TRANSFER TO OPERATIONS (Note 2)	139,014
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BALANCE, END OF YEAR	\$ 1,372,485
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Balance Sheet
March 31, 1983

Assets

CURRENT ASSETS

Cash	\$ 100
Accounts Receivable	
Province of Ontario (Note 2)	1,233,000
Trade and other	35,933
Prepaid expenses	89,684
	1,358,717
Fixed Assets (Note 3)	1,303,813
License (Note 4)	68,672
	\$ 2,731,202

Liabilities

CURRENT LIABILITIES

Accounts payable and accrued charges	\$ 1,314,234
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Equity

SURPLUS

44,483

RESERVE FOR CAPITAL ASSETS

1,372,485

\$ 2,731,202



Gordon W. Gow
Chairman



C. Williams
Director

**Statement of Changes in Financial Position
From Commencement of Operations, April 1, 1982 to March 31, 1983**

SOURCE OF WORKING CAPITAL

Operations

Excess of revenue over expenditures	\$ 44,483
Items not affecting working capital	
Depreciation and amortization	139,014
Transfer from reserve for capital assets	(139,014)
	44,483
Contributions from Province of Ontario for capital assets	1,511,499
	1,555,982

USES OF WORKING CAPITAL

Purchase of fixed assets	1,438,190
Acquisition of license	73,309
	1,511,499

WORKING CAPITAL BALANCE, END OF YEAR

\$ 44,483

**Notes to the Financial Statements
March 31, 1983**

1. Significant Accounting Policies

The financial statements have been prepared in accordance with generally accepted accounting principles and reflect the following policies:

Fixed Assets

Fixed assets are stated at cost. Equipment and furniture are depreciated by the straight-line method at rates calculated to amortize the cost of the assets, less salvage value, over their estimated useful lives. Leasehold improvements are amortized by the straight-line method over the terms of the respective leases.

Licenses

Licenses are stated at cost and are depreciated by the straight-line method over two years being the estimated life of the license.

Contributions from the Province of Ontario

The contributions are made without reference to source or type of expenditure. The breakdown shown in the financial statements is based on the capital assets expenditures by the Centre and the balance is designated for operations.

Contributions for capital assets are credited to reserve for capital assets and recognized as income as the depreciation of the related assets are charged against operations.

Contributions for operations are recognized as revenue in the period in which they are committed by the Province.



2. Contributions from the Province of Ontario

Total contributions	\$2,892,940
Less amount assigned to capital assets	1,511,499
	1,381,441
Transfer from reserve for capital assets	139,014
Operations contributions	\$ 1,520,455

At March 31, 1983 the Centre had not received \$1,233,000 of the total committed funds from the Province.

These funds were received by the Centre in April, 1983.

3. Fixed Assets

	Cost	Accumulated Depreciation and Amortization	Net Book Value	Depreciation Rates
Technical equipment	\$ 976,486	\$ 87,649	\$ 888,837	20%
Office equipment	118,480	11,848	106,632	20%
Office furniture	178,287	14,263	164,024	20%
Leasehold	164,937	20,617	144,320	4 Years
	\$ 1,438,190	\$ 134,377	\$ 1,303,813	

4. License

Cost	\$ 73,309
Accumulated amortization	4,637
	\$ 68,672

5. Non-recurring Expenses

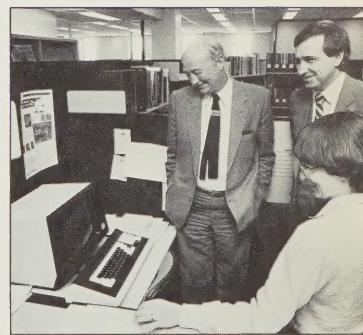
Business plan and pre-opening costs	\$ 220,212
Consulting fees, employee benefit plans	37,961
Initial executive recruitment	66,466
	\$ 324,639

Schedule 1**Schedule of Program Costs****From Commencement of Operations, April 1, 1982 to March 31, 1983**

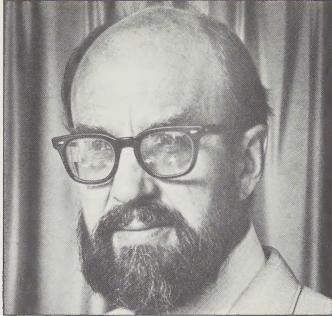
	Technical	Communications	Total
Advertising	\$ —	\$ 25,357	\$ 25,357
Computer rentals and maintenance	26,910	—	26,910
Depreciation and amortization	108,782	16,759	125,541
Material	4,358	125,411	129,769
Salaries			
Secondment	145,110	102,082	247,192
Staff and benefits	52,922	62,742	115,664
Seminar expenses	—	6,397	6,397
Technical and professional services	—	72,478	72,478
Telephone and rent	63,328	47,158	110,486
Travel and accommodations	8,470	11,215	19,685
	\$ 409,880	\$ 469,599	\$ 879,479

Schedule 2**Schedule of Administration Costs****From Commencement of Operations, April 1, 1982 to March 31, 1983**

Depreciation and amortization	\$ 13,473
Directors' meetings	15,853
Equipment rentals	25,111
Postage and stationery	29,764
Recruiting	11,652
Salaries	
Secondment	52,938
Staff and benefits	105,997
Supplies and services	13,351
Telephone and rent	46,101
Travel and accommodation	11,786
	\$ 326,026



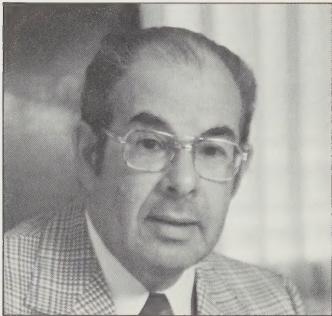
Chairman and Board of Directors



Prof. Archie Bowen, Systems and Computer Engineering, Carleton University, Ottawa



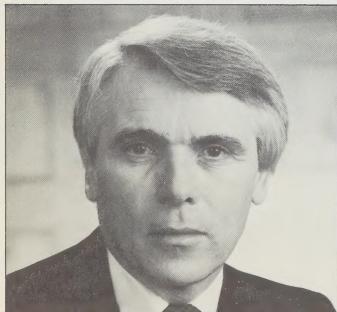
Dr. D. Michael Caughey, Vice President CAD/CAM, Mitel Corporation, Kanata



Sidney Handleman, Consultant, Public Affairs International Ltd., Nepean.



Rich McDonald, Bell Northern Research, Ottawa.



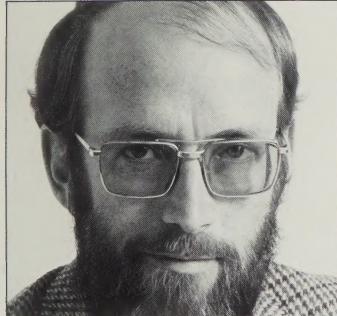
Gordon Gow, Senior Vice President, Corporate Services, Nabu Manufacturing, Ottawa.



David Moore, President, Siltronics Ltd., Kanata.



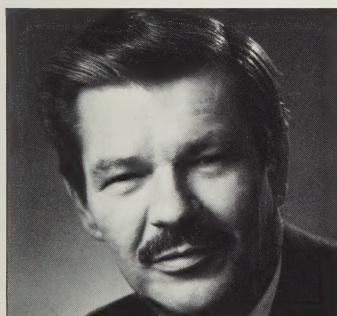
Dr. Elizabeth Parr-Johnston, Manager, Macro-environment, Shell Canada Ltd., Toronto.



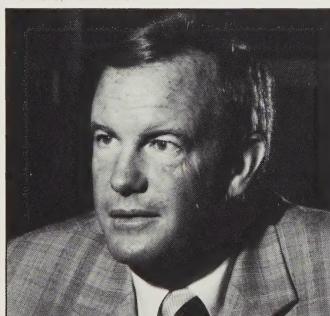
Colin Patterson, President, Gandalf Data Ltd., Nepean.



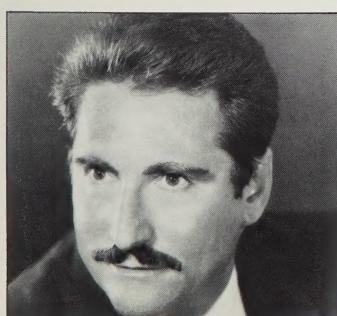
Glenn Pattinson, President, Canadian District, International Union of Electrical Radio & Machine Workers, Don Mills.



Dr. Walter Pieczenka, President, Linear Technology Inc., Burlington.



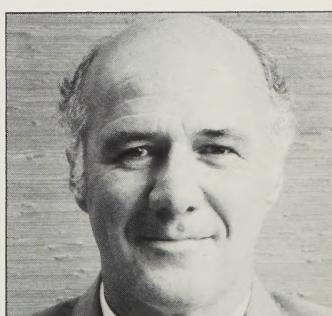
Ted Rogers, President, Rogers Cable, Toronto.



Dr. Andrew Szonyi, Professor of Engineering and Management, University of Toronto, Toronto.



J. Peter Vice, Lawyer, Vice and Hunter, Ottawa.



Charles Williams, President, GEAC Computers International Inc., Markham.

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ONTARIO 
Ministry of
Industry and
Trade